

## **REMARKS**

The present Amendment is in response to the Office Action mailed October 18, 2007. Claims 1-18 are now pending (claims 1-6 having been withdrawn) in view of the above amendments.

Please note that the following remarks are not intended to be an exhaustive enumeration of the distinctions between any cited references and the claimed invention. The remarks or lack of remarks herein are not an admission concerning the Examiner's comments or construction of the cited art. Rather, the distinctions identified and discussed below are presented solely by way of example to illustrate some of the differences between the claimed invention and the cited references. Reconsideration of the application is respectfully requested in view of the above amendments to the claims and the following remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

### **Rejections Under 35 U.S.C. § 103**

The Office Action rejected claims 7-18 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,430,965 (*Eda*) in view of U.S. Publication No. 2003/0109202 (*Matsuno*). A *prima facie* case of obviousness requires that all the claim limitations must be taught or suggested by the prior art. Also, all "words in a claim must be considered in judging the patentability of that claim against the prior art." See MPEP §2143.03. The art cited by the Examiner fails to teach or suggest all of the limitations of the claim. The Office Action also fails to consider the words in the claim and the claim as a whole. Applicant therefore respectfully traverses the rejection and requests that the rejection be withdrawn.

Embodiments of the invention are directed to manufacturing a glass substrate for an information recording medium. The manufacturing method is performed in a particular order. Claim 7, for example, requires that the first washing step (an acidic washing) be followed by the grinding step. The grinding step is then followed by the

second washing step (an alkali washing). In the method of claim 7, the first washing steps forms an altered surface layer, which has less chemical resistance.

The specification notes, by way of example only, that "immersion in the strong solution in the pre-grinding washing process deforms the glass. The composition of a layer (surface layer) 27 near the surface of the deformed glass plate 21 differs from the composition of an inner portion 26 of the glass plate 21, or the portion 26 excluding the surface layer 27. The chemical resistance of the surface layer 2 is lower than that of the inner portion 26." See specification pg. 9 ll. 33-pg. 10 ll. 7. The second washing step (alkali washing) removes not only the altered surface layer but also the abrasion grains that are used in the grinding step and remained in the altered surface layer. This results in a glass substrate having a smooth surface and a high cleanliness.

Neither *Eda* nor *Matsuna* disclose or suggest the order of the first washing step (acidic washing), the grinding step, and the second washing step (alkali washing) as recited in claim 7.

For example, *Eda* discloses a first washing step using water performed after mirror-finish processing (col. 9, lines 59-61), a second washing step using a neutral detergent or water performed after lapping (col. 10, lines 10-12), a third washing step successively using a neutral detergent, pure water, pure water, IPA and IPA performed after first polishing (col. 13, lines 40-44), a fourth washing step successively using a neutral detergent, a neutral detergent, pure water, pure water, IPA and IPA performed after second polishing (col. 13, lines 53-58). Accordingly, *Eda* teaches a polishing step followed by a washing step using a neutral or organic solution.

This disclosure of *Eda* does not teach or suggest an alkali washing step performed after a grinding step as recited in claim 7. Therefore *Eda* fails to disclose or suggest the order of the first washing step (acidic washing), the grinding step, and the second washing step (alkali washing). In addition, after the washing step, *Eda* then discloses a chemical reinforcement step. See col. 10, ll. 59. A chemical reinforcement step performed after a washing step as disclosed in *Eda* teaches away from a grinding step performed after the first washing step as recited in claim 7.

*Matsuno* also fails to disclose or suggest the order of the first washing step (acidic washing), the grinding step, and the second washing step (alkali washing). Rather, *Matsuno* teaches the order of a surface polishing step (9), an acidic washing step (10a), and an alkali washing step (10b). This sequence, which is repeatedly taught in Figures 3-6, teaches away from the claimed invention. More specifically, an alkali washing that directly follows an acidic washing, fails to teach or suggest the grinding step required by claim 7.

Neither *Eda* or *Matsuno* disclose or suggest a grinding step that is between a first acidic washing step and a second alkali washing step. In addition, neither *Eda* nor *Matsuno* disclose or suggest the order of the first washing step (acidic washing), the grinding step, and the second washing step (alkali washing). For at least these reasons, Applicant respectfully submits that claim 7 is patentable over *Eda* in view of *Matsuno*.

Claim 11 similarly requires

immersing the glass plate in an acid solution to form an altered surface layer in which the ingredient ratio of at least one of aluminum oxide and alkaline earth metal oxide is decreased;

removing at least part of the altered surface layer with an abrasive to such that the altered surface layer has a thickness of 3 nm or less; and

uniformly etching the altered surface layer having a thickness of 3 nm or less while washing off the abrasive with an alkaline washing liquid.

For at least the reasons discussed herein, the cited art fails to teach the elements of claim 11 as the elements are set forth in the claim. There is no suggestion, for example, of removing part of the layered surface layer after it is immersed in an acid solution and before it is washed with an alkaline washing liquid to wash off the abrasive.

For at least the reasons discussed herein, Applicant respectfully submits that claim 11 is patentable over the cited art. The dependent claims rejected under § 103 are patentable for at least the same reasons.

**Conclusion**

In view of the foregoing, Applicants believe the claims as amended are in allowable form. In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, or which may be overcome by an Examiner's Amendment, the Examiner is requested to contact the undersigned attorney.

Dated this 18<sup>th</sup> day of March, 2008.

Respectfully submitted,

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